



LXI Overview

February 14-16 2006

➤ **History**

- ✓ Not-for-profit Corporation
- ✓ Conceived by Agilent & VXI Technology
 - ❖ Summer 04
- ✓ Incorporated Sept 13, 2004
- ✓ First meeting Nov 17-18, 2004
- ✓ September 2005 Version 1.0 Released
- ✓ First Certified Products Q1 2006

➤ **Membership Status**

- ✓ >40 Members

➤ **Website**

- ✓ www.lxistandard.org

➤ **Membership Levels**

- ✓ \$30k for Strategic Member (board / voting privileges)
- ✓ \$10k for Participating Member (tech voting privileges)
- ✓ \$5k for Associate Member (tech participant, no voting)
- ✓ \$2500 for Informational Member

➤ **Primary Purpose**

- ✓ Promote the Development and Adoption of the LXI Standard

➤ **What Is It?**

- ✓ An Open, Accessible Standard Identifying Specifications and Solutions Relating to the Functional Test, Measurement and Data Acquisition Industry



www.LXISTANDARD.org

❖ LAN eXtensions for Instrumentation

- Addressing the Growing Need for a High-speed Instrumentation Interface Standard

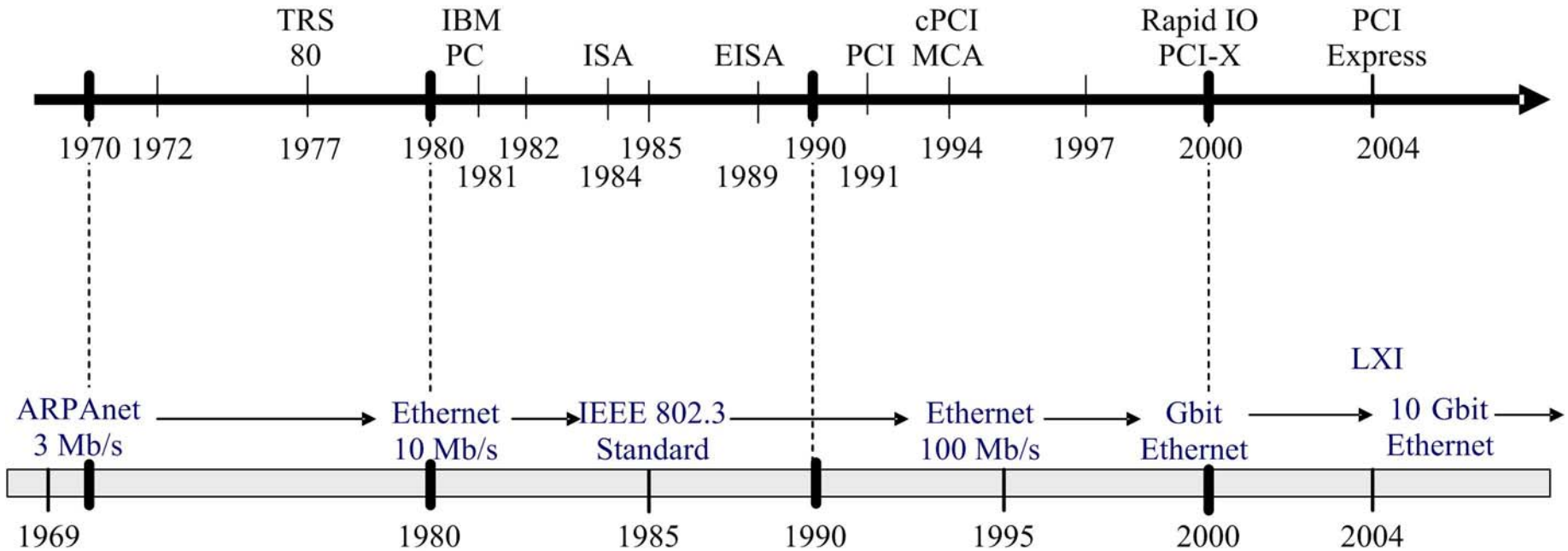
❖ Key Advantages of LXIbus

- High-speed I/O
- Instrument Grade Measurements
- Compact / Flexible Packaging
- Tight Device Synchronization
- Standard API
- Modularity
- Resolves Vanilla Ethernet Limitations
- Ideal for Small to Medium Size Applications

❖ Standard Ethernet I/O is Basis for LXI

- Based on IEEE802.3 Ethernet Technology
 - Continually Evolving
 - 10Mb → 100Mb → 1Gb → 10Gb → +++
 - Backward Compatibility
 - Standard Connections
- Most Widely Used Communications Interface
 - Available on Virtually Every Computer
 - Independent of OS Implementation
 - Built-in Interfaces
 - Eliminates Cost of Interface Card





Longevity of Ethernet

❖ Key Functional Areas of LXI Specification

- Physical
- Device Synchronization & LAN-based Triggering
- Module-to-Module Communications
- Hardware Triggering
- Programmatic Interface (Drivers)
- LAN
- WEB Interface

❖ Class Structure Defines Levels of Compliance

➤ **Class C** (Minimum Requirement for Certification)

- ✓ LAN Discovery
- ✓ LAN Specifications
- ✓ Web Interface
- ✓ Physical

➤ **Class B**

- ✓ Synchronization / IEEE1588
- ✓ Full Class C Compliance

➤ **Class A**

- ✓ Trigger Bus Hardware Triggering
- ✓ Full Class B & Class C Compliance

➤ **Physical**

- ✓ Group Chair
 - ❖ David Poole
 - ❖ Aeroflex
- ✓ Functional Responsibilities
 - ❖ Power / Electrical
 - ❖ Physical Layout
 - ❖ Indicators

➤ **Local Area Network**

- ✓ Group Chair
 - ❖ Nick Barendt
 - ❖ VXI Technology, Inc
- ✓ Functional Responsibilities
 - ❖ Discovery
 - ❖ IP Configuration
 - ❖ Interoperability

➤ **Timing and Synchronization**

✓ Group Chair

- ❖ John Eidson

- ❖ Agilent Technologies

✓ Functional Responsibilities

- ❖ IEEE-1588

- ❖ LAN Messaging

- ❖ Hardware Synchronization

➤ **Programmatic Interface**

✓ Group Chair

- ❖ Bob Clemmons

- ❖ Aeroflex

✓ Functional Responsibilities

- ❖ API

- ❖ Driver Recommendations

- ❖ Syntax

➤ **Wired Trigger Interface**

✓ Group Chair

- ❖ Art Graffmans
- ❖ VXI Technology

✓ Functional Responsibilities

- ❖ Input / Output Configurability
- ❖ Wired-OR
- ❖ Shielding / Cabling

➤ **WEB Browser**

✓ Group Chair

- ❖ John Ryland
- ❖ Keithley Instruments

✓ Functional Responsibilities

- ❖ HTML Browser Definition
- ❖ Minimum Configuration Requirements
- ❖ Password Protections